

Attorney Docket #: 24347-054US

Section 2, Amendment to Claims:

Please amend claims 1 and 10 as follows below. No claims are cancelled. The claims in the case remains claims 1 – 11, and the status of each is indicated.

1 1. (Currently Amended) A passenger safety interface circuit between a current source or
2 a resistive-type seat sensor and a microprocessor airbag safety system controller

3 comprising:

4 a current mirror circuit having first and second current paths,

5 a seat [belt latch] sensor circuit comprising a current source or resistive-type seat,
6 belt latch or belt tensioner sensor in said second current path and having a single lead
7 interface to said current mirror circuit,

8 a current sensing circuit in said first current path, said first current in said first current
9 path mirroring the current in said second current path, [and]

10 a control microprocessor circuit responsive to the current in said first current path for
11 controlling the activation of a passenger safety system[.]; and

12 said interface circuit interfaces with both current source and resistive-type sensors,
13 operates with low input voltage, permits use of an entire dynamic range of microprocessor
14 analog input and interfaces with multiple safety sensors.

1 2. (Original) The passenger safety interface circuit as set forth in Claim 1 wherein said current
2 mirror circuit includes first and second matching transistors, said first transistor included in said
3 first current path and said second transistor included in said second current path.

1 3. (Original) The passenger safety interface circuit as set forth in Claim 2 further including a
2 control transistor coupled between said second matching transistor and said seatbelt latch sensor
3 for controlling the current to said seatbelt latch sensor circuit in response to a signal from said
4 control microprocessor circuit.

1 4. (Original) The passenger safety interface circuit as set forth in Claim 3 further including a
2 first current sense resistor in said first current path between the first matching transistor and
3 ground potential, the voltage across said resistor being proportional to the current through said

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4 seatbelt latch sensor circuit and providing the input signal to the control microprocessor circuit.

1 5. (Original) The passenger safety interface circuit as set forth in Claim 4 wherein said control
2 microprocessor circuit includes outputs to control the operation of a vehicle airbag system and/or
3 a vehicle seatbelt tensioner system.

1 6. (Original) The passenger safety interface circuit as set forth in Claim 5 further including at
2 least a second seatbelt sensor circuit in parallel connection to said first mentioned seatbelt latch
3 sensor circuit, and at least a second control transistor coupled between said second matching
4 transistor and said second seatbelt latch sensor circuit for controlling the current through said
5 second seatbelt latch sensor circuit in response to a signal from said control microprocessor
6 circuit.

1 7. (Original) The passenger safety interface circuit as set forth in Claim 6 wherein the current in
2 said first current path mirrors the current in the second current path, said second current path
3 including the current in said first seatbelt latch sensor circuit and at least said second seatbelt
4 latch sensor circuit.

1 8. (Original) The passenger safety interface circuit as set forth in Claim 7 wherein the current
2 through said first current path is detected by said control microprocessor circuit in discrete
3 values, said discrete values indicating that neither seatbelt is latched, only said first seatbelt is
4 latched, only a second seatbelt is latched, or that both seatbelts are latched.

1 9.(Original) A method of monitoring the status of passenger vehicle seatbelt latches comprising:
2 providing a current mirror circuit with first and second current paths,
3 controlling the current flow in said second current path by a control microprocessor
4 circuit,
5 monitoring the status of the seatbelt latches by providing a seatbelt latch sensor circuit,
6 measuring the current in said first current path, said current in said first current path
7 mirroring the current flow in said second current path,
8 applying the measured current to the control microprocessor circuit to provide the status

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9 of the seatbelt latches to the microprocessor circuit, and
10 providing an output path from said microprocessor circuit to a vehicle airbag system
11 and/or a vehicle seatbelt tensioner system to fire or not to fire depending on the status of the
12 seatbelt latches in the event of a detected collision or sudden deceleration.

1 10. (Currently Amended) A method of monitoring the status of passenger seat[belt latches]
2 sensors comprising:

3 providing a current mirror circuit with first and second current paths between a current
4 source or a resistive-type seat sensor and a microprocessor airbag safety system controller.
5 said passenger seat sensors [belt latches] being included in the second current path,
6 mirroring the current in said second current path in said first current path,
7 measuring the current in said first current path,
8 applying the measured current to a control microprocessor circuit, and
9 controlling the activation of a vehicle airbag system and/or a vehicle seatbelt tensioner
10 system to enable or disable firing depending on the status of the seat sensors [belt latches] in the
11 event of a detected collision or sudden deceleration.

1 11. (Original) The method as set forth in claim 10 further including the step of:
2 providing at least a second passenger seatbelt latch connected in parallel in said second
3 current path; and wherein:
4 said step of measuring the current in said first current path includes activating the
5 corresponding control transistor to allow current flow through the selected seatbelt latch sensor.

End of Section 2, Amendment to the Claims.